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P116 Oxybee® (containing oxalic acid) in the treatment of varroosis in honey bees under field conditions in Germany

Braun G.[2], Lohr B.[2], Dany N.[1], Schneider C.[2], Marsky U.[3], Hellmann K.[2]
[1] *Dany Bienenwohl GmbH, Munich, Germany;* [2] *Klifovet AG, Munich, Germany;* [3] *Vetopharma, Villebon-sur-Yvette, France*

A clinical field study in honey bees naturally infested with *Varroa destructor* was conducted to evaluate the efficacy and safety of the product Oxybee® in Germany from November 2012 to April 2013. Oxybee® is a veterinary medicinal product containing oxalic acid, for trickling application to control varroosis in honey bees. A total of 45 colonies were enrolled at 2 study sites, one in Southern and one in Northern Germany.
Safety evaluation was based on: Bee mortality, colony and queen survival until the following spring, colony strength in the following spring, and area of open/sealed/drone brood in the following spring.
The results showed that Oxybee® was highly efficacious and safe in the treatment of Varroosis in honey bees caused by Varroa destructor under field conditions in Germany.
Oxybee® is one of the first Varroa medicine for honey bees to receive a positive opinion regarding a centralizedauthorization in Europe. It is distributed since starting starting of 2018 by Véto-pharma, the French pharmaceutical company 100% dedicated to honey bee health, and manufacturer of Apivar.

P117 A study of local adaptation in the Iberian honeybee (*Apis mellifera iberiensis*) using a reciprocal translocation experiment

Lopes A.R.[1], Neves C.[1], Ventura P.[2], Vilas-Boas M.[1], Rodrigues P.J.[3], Garnery L.[4], Biron D.G.[5], Pinto M.A.[1]
[1] *Mountain Research Centre, Polytechnic Institute of Bragança, Bragança, Portugal;* [2] *Apis Ventura S.U. Lda, Bragança, Portugal;* [3] *Polytechnic Institute of Bragança, Bragança, Portugal;* [4] *Laboratoire Evolution, Génomes et Spéciation, CNRS, Gif-sur-Yvette, France;* [5] *Laboratoire Microorganismes, Génome et Environnement, Université Clermont-Auvergne, Aubière Cedex, France*

In Europe, several translocation experiments suggested that native populations of *Apis mellifera* are adapted to local climate and flora. However, so far, no study has been conducted on the Iberian honeybee, *Apis mellifera iberiensis*. The goal of this study was to assess the existence of genotype-environment interaction (GEI), and consequently local adaptation, in the Iberian honeybee. In 2015 two apiaries were set up, each one with 36 colonies (18 of the origin Bragança and 18 of the origin Vila do Bispo), in two latitudinal extremes of Portugal: Bragança (north) and Vila do Bispo (south). Several traits of the 36 colonies were measured for almost 2 years, including: number of brood and pollen cells, honey yield, survival, and Varroa destructor infestation. The analyses were performed using t-Student and Mann-Whitney tests to compare those traits between the two origins in the same apiary and the same origin between the two apiaries. The survival analysis was performed using the Cox proportional hazard model in R. Colonies of the southern origin Vila do Bispo showed a tendency to collect more pollen and consequently they produced a higher number of brood cells, had a higher varroa infestation level and a lower survival rate than colonies of the origin Bragança in both locations. Honey yield was the only trait that showed existence of GEI, and therefore local adaptation, since the local honeybees had a higher honey production in their apiary of origin. Additionally, the differences between the two origins were sharper in more favourable environments where the honeybees can better express their genetic potential. Our findings highlight the importance of protecting local honeybee diversity in a period of increasing selection pressures such as climate change, agricultural land overuse and novel pathogens and parasites.
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